

SEQUENCE LISTING

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<140> US 10/783,311

<141> 2004-02-19

<150> US 60/448,515

<151> 2003-02-19

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<212> PRT

<213> Homo sapiens

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Pro Gly Gln Trp Val Tyr Leu Ala Ala Thr Tyr Asp Gly Gln Phe Met
195 200 205
Lys Leu Tyr Val Asn Gly Ala Gln Val Ala Thr Ser Gly Glu Gln Val

Gly Gly Ile Phe Ser Pro Leu Thr Gln Lys Cys Lys Val Leu Met Leu

220

215

Gly Gly Ser Ala Leu Asn His Asn Tyr Arg Gly Tyr Ile Glu His Phe Ser Leu Trp Lys Val Ala Arg Thr Gln Arg Glu Ile Leu Ser Asp Met Glu Thr His Gly Ala His Thr Ala Leu Pro Gln Leu Leu Leu Gln Glu Asn Trp Asp Asn Val Lys His Ala Trp Ser Pro Met Lys Asp Gly Ser Ser Pro Lys Val Glu Phe Ser Asn Ala His Gly Phe Leu Leu Asp Thr Ser Leu Glu Pro Pro Leu Cys Gly Gln Thr Leu Cys Asp Asn Thr Glu Val Ile Ala Ser Tyr Asn Gln Leu Ser Ser Phe Arg Gln Pro Lys Val Val Arg Tyr Arg Val Val Asn Leu Tyr Glu Asp Asp His Lys Asn Pro Thr Val Thr Arg Glu Gln Val Asp Phe Gln His His Gln Leu Ala Glu Ala Phe Lys Gln Tyr Asn Ile Ser Trp Glu Leu Asp Val Leu Glu Val Ser Asn Ser Ser Leu Arg Arg Leu Ile Leu Ala Asn Cys Asp Ile Ser Lys Ile Gly Asp Glu Asn Cys Asp Pro Glu Cys Asn His Thr Leu Thr Gly His Asp Gly Gly Asp Cys Arg His Leu Arg His Pro Ala Phe Val Lys Lys Gln His Asn Gly Val Cys Asp Met Asp Cys Asn Tyr Glu Arg Phe Asn Phe Asp Gly Gly Glu Cys Cys Asp Pro Glu Ile Thr Asn Val Thr Gln Thr Cys Phe Asp Pro Asp Ser Pro His Arg Ala Tyr Leu Asp Val Asn Glu Leu Lys Asn Ile Leu Lys Leu Asp Gly Ser Thr His Leu Asn Ile Phe Phe Ala Lys Ser Ser Glu Glu Leu Ala Gly Val Ala Thr Trp Pro Trp Asp Lys Glu Ala Leu Met His Leu Gly Gly Ile Val Leu Asn Pro Ser Phe Tyr Gly Met Pro Gly His Thr His Thr Met Ile His Glu Ile Gly His Ser Leu Gly Leu Tyr His Val Phe Arg Gly Ile Ser Glu Ile Gln Ser Cys Ser Asp Pro Cys Met Glu Thr Glu Pro Ser Phe Glu Thr Gly Asp Leu Cys Asn Asp Thr Asn Pro Ala Pro Lys His Lys Ser Cys Gly Asp Pro Gly Pro Gly Asn Asp Thr Cys Gly Phe His Ser Phe Phe Asn Thr Pro Tyr Asn Asn Phe Met Ser Tyr Ala Asp Asp Asp Cys Thr Asp Ser Phe Thr Pro Asn Gln Val Ala Arq Met His Cys Tyr Leu Asp Leu Val Tyr Gln Gly Trp Gln Pro Ser Arg Lys Pro Ala Pro Val Ala Leu Ala Pro Gln Val Leu Gly His Thr Thr Asp Ser Val Thr Leu Glu Trp Phe Pro Pro Ile Asp Gly His Phe Phe Glu Arg

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Cys Lys Ser Ser Val Arg Thr Trp Ser Pro Asn Ser Ala Val Asn Pro
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His Thr Val Pro Pro Ala Cys Pro Glu Pro Gln Gly Cys Tyr Leu Glu
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Lys Leu Leu Ala Val Ser Gly Lys Asn Ile Ser Leu Gly Pro Gln Asn
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Cys Lys Pro Leu Lys Tyr Lys Val Val Arg Asp Pro Pro Leu Gln Met
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Leu Asn Leu Gly Ser Val Tyr Gln Tyr Trp Val Ile Thr Ile Ser Gly
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Thr Glu Glu Ser Glu Pro Ser Pro Ala Val Thr Tyr Ile His Gly Arq
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Gly Tyr Cys Gly Asp Gly Ile Ile Gln Lys Asp Gln Gly Glu Gln Cys
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Gln Glu Val Ser Phe Asn Cys Ile Asp Glu Pro Ser Arg Cys Tyr Phe
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His Asp Gly Asp Gly Val Cys Glu Glu Phe Glu Gln Lys Thr Ser Ile
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Ile Ile Gly Gln Pro Ala Ala Ser Gln Val Cys Arg Thr Lys Val Ile
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Ser Tyr Pro Tyr Ser Gln Leu Ala Gln Thr Thr Phe Trp Leu Arg Ala
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Tyr Phe Ser Gln Pro Met Val Ala Ala Val Ile Val His Leu Val
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                                1145
                                                    1150
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Asp Leu Gln Gly Asp Cys Ala Cys Arg Asp Pro Gln Ala Gln Glu His

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355 360 365 Val Lys Lys Gln His Asn Gly Val Cys Asp Met Asp Cys Asn Tyr Glu

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Asp Val Asn Glu Leu Lys Asn Ile Leu Lys Leu Asp Gly Ser Thr His
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Leu Asn Ile Phe Phe Ala Lys Ser Ser Glu Glu Leu Ala Gly Val
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Ala Thr Trp Pro Trp Asp Lys Glu Ala Leu Met His Leu Gly Gly Ile
                        455
Val Leu Asn Pro Ser Phe Tyr Gly Met Pro Gly His Thr His Thr Met
                    470
                                        475
Ile His Glu Ile Gly His Ser Leu Gly Leu Tyr His Val Phe Arg Gly
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                485
Ile Ser Glu Ile Gln Ser Cys Ser Asp Pro Cys Met Glu Thr Glu Pro
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Ser Phe Glu Thr Gly Asp Leu Cys Asn Asp Thr Asn Pro Ala Pro Lys
                            520
His Lys Ser Cys Gly Asp Pro Gly Pro Gly Asn Asp Thr Cys Gly Phe
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His Ser Phe Phe Asn Thr Pro Tyr Asn Asn Phe Met Ser Tyr Ala Asp
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Asp Asp Cys Thr Asp Ser Phe Thr Pro Asn Gln Val Ala Arg Met His
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Cys Tyr Leu Asp Leu Val Tyr Gln Gly Trp Gln Pro Ser Arg Lys Pro
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Ala Pro Val Ala Leu Ala Pro Gln Val Leu Gly His Thr Thr Asp Ser
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                                                 605
Val Thr Leu Glu Trp Phe Pro Pro Ile Asp Gly His Phe Phe Glu Arg
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                                            620
Glu Leu Gly Ser Ala Cys His Leu Cys Leu Glu Gly Arg Ile Leu Val
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                                        635
Gln Tyr Ala Ser Asn Ala Ser Ser Pro Met Pro Cys Ser Pro Ser Gly
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His Trp Ser Pro Arg Glu Ala Glu Gly His Pro Asp Val Glu Gln Pro
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Cys Lys Ser Ser Val Arg Thr Trp Ser Pro Asn Ser Ala Val Asn Pro
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Thr Phe Val Ser Thr Asp Trp Asp Ser Ser Gly Ala Val Asn Asp Ile
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Val Phe Cys Asp Val Pro Leu Thr Ile Arg Leu Trp Asp Val Gly Glu
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Asp Ala Ala Met Leu Thr Ser Thr Ala Asp Thr Pro Leu Cys Leu Gln
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Cys Lys Pro Leu Lys Tyr Lys Val Val Arg Asp Pro Pro Leu Gln Met
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Gln Glu Val Ser Phe Asn Cys Ile Asp Glu Pro Ser Arg Cys Tyr Phe
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His Asp Gly Asp Gly Val Cys Glu Glu Phe Glu Gln Lys Thr Ser Ile
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Lys Asp Cys Gly Val Tyr Thr Pro Gln Gly Phe Leu Asp Gln Trp Ala
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Ile Ile Gly Gln Pro Ala Ala Ser Gln Val Cys Arg Thr Lys Val Ile
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Asp Leu Ser Glu Gly Ile Ser Gln His Ala Trp Tyr Pro Cys Thr Ile
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                                985
Ser Tyr Pro Tyr Ser Gln Leu Ala Gln Thr Thr Phe Trp Leu Arg Ala
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Tyr Phe Ser Gln Pro Met Val Ala Ala Ala Val Ile Val His Leu Val
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Pro Leu Val Ala Ile Ser Gly Val Ala Leu Arg Ser Phe Asp Asn Phe
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Gln Ile Arg Arg Asp Asp Glu Leu Ile Lys Ser Gln Thr Gly Pro Ser
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Val Thr Val Thr Cys Thr Glu Gly Lys Trp Asn Lys Gln Val Ala Cys
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                                1225
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Cys Met Glu Asp Gly Leu Trp Ser Phe Pro Glu Ala Leu Cys Glu Leu
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Arg Cys Arg Glu Asn Lys His Lys Val Gly Ser Phe Cys Lys Tyr Lys
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Ala	Cys 1330		Pro	Val	Thr	Cys 1335	_	Pro	Pro	Pro	Pro 1340		Phe	His	Gly	
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gaagattttg cagtttatta ctgtcagcag tataataact ggcctccgac gttcggccaa
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cctggccagg ctcccaggct cctcatctat ggtgcatcca gcagggccac tggcatccca
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tcctatagca gcagttggta cggctactgg ggccagggaa ccctggtcac cgtctcaagc
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gcctccacca agggcccatc ggtcttcccg
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gggcatagca gcagctggta caatcattac tactactact acatggacgt ctggggcaaa
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cctggtaaag gtttggagtg ggtttcttat atctatcctt ctggtggctt tactccttat

60

120

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qctgactccg ttaaaggtcg cttcactatc tctagagaca actctaagaa tactctctac
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240

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Thr Val Thr Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
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                                         75
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Thr Trp Asp Asn Thr Leu
Arg Gly Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Pro Tyr
Arg Met Asp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
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                            40
                                                 45
Ser Tyr Ile Tyr Pro Ser Gly Gly Phe Thr Pro Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Phe Tyr
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                    90
Ala Lys Gly Ser Thr Gly Tyr Arg Tyr Tyr Tyr Gly Met Asp Val Trp
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Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
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125
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Ser Val Phe Pro
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Ser Asp Asp Gln Arg Pro Ser
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Pro Tyr Arg Met Asp
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Gly
<210> 85
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Gly Ser Thr Gly Tyr Arg Tyr Tyr Tyr Gly Met Asp Val
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Gly Glu Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Gln
Ser Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln
                            40
Ser Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val
Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys
Ile Ser Arg Val Glu Ala Glu Asp Val Gly Ile Tyr Tyr Cys Met Gln
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Ala Leu His Thr Pro Pro Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
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Arg Thr Val Ala Ala Pro Ser Val
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Ser Ser Ile Tyr Ser Ser Gly Gly Tyr Thr Ser Tyr Ala Asp Ser Val
                         55
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                                         75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85
                                     90
Ala Arg Val Arg Asp Ile Leu Thr Gly Pro Tyr Tyr Phe Asp Tyr Trp
                                 105
Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
Ser Val Phe Pro
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Leu Gly Ser Asn Arg Ala Ser
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Met Gln Ala Leu His Thr Pro Pro
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Tyr Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Leu
Ile Tyr Ala Ala Ser Ser Leu Gln Phe Gly Val Pro Ala Arg Phe Ser
Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln
                    70
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Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Ser Phe Pro
                                    90
Pro Ala Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala
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105
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Ala Pro Ser Val
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Asp Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Tyr Ile Ser Ser Ser Gly Gly Lys Thr Met Tyr Ala Asp Ser Val
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Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
Ala Arg Leu Gly Gly Asn Ser His Tyr Tyr Tyr Gly Met Asp Val Trp
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Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
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Ser Val Phe Pro
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Ala Ala Ser Ser Leu Gln Phe
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Pro Tyr Asp Met Trp
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Trp Leu Ala Trp Tyr Gln Gln Arg Pro Gly Arg Ala Pro Lys Leu Leu
Ile Tyr Ala Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln
                    70
                                        75
Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ala Asp Ser Phe Pro
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Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala
Ala Pro Ser Val
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<211> 123
<212> PRT
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      Heavy Chain amino acid sequence
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Ala Met Asp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Tyr Ile Ser Pro Ser Gly Gly Tyr Thr Arg Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                                        75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                    90
Ala Ser Asp Phe Gly Ser Trp Gly Gln Gly Thr Leu Val Thr Val Ser
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                                105
Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
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<223> Synthetically generated peptide
<400> 107
Asn Tyr Ala Met Asp
<210> 108
<211> 17
<212> PRT
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<400> 108
Tyr Ile Ser Pro Ser Gly Gly Tyr Thr Arg Tyr Ala Asp Ser Val Lys
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                 5
Gly
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<210> 109
<211> 4
<212> PRT
<213> Artificial Sequence
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<223> Synthetically generated peptide
<400> 109
Asp Phe Gly Ser
<210> 110
<211> 117
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 110
Gln Asp Ile Gln Met Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro
                                    10
Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Ile Ser Ser
                                25
Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
Leu Ile Tyr Ala Ala Ala Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe
Ser Gly Ile Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Trp
                                    90
Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val
            100
Ala Ala Pro Ser Val
        115
<210> 111
<211> 131
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 111
Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
                                    10
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Arg Tyr
His Met Glu Trp Val Arg Gln Ala His Gly Lys Gly Leu Glu Trp Val
Ser Tyr Ile Ser Pro Ser Gly Gly Lys Thr Leu Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
                                        75
```

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Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                     90
Ala Arg His Leu Gly Tyr Gly Ser Gly Ser Tyr Phe Asp Tyr Trp Gly
                                                     110
            100
                                 105
Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
                            120
Val Phe Pro
    130
<210> 112
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> Synthetically generated peptide
Arg Ala Ser Gln Ser Ile Ser Ser Ser Tyr Leu Ala
                                     10
<210> 113
<211> 7
<212> PRT
<213> Artificial Sequence
<223> Synthetically generated peptide
<400> 113
Ala Ala Ser Arg Ala Thr
<210> 114
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Synthetically generated peptide
<400> 114
Gln Gln Arg Ser Asn Trp Pro Leu Thr
<210> 115
<211> 5
<212> PRT
<213> Artificial Sequence
<223> Synthetically generated peptide
<400> 115
Arg Tyr His Met Glu
1
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<210> 116
<211> 17
<212> PRT
<213> Artificial Sequence
<220>
<223> Synthetically generated peptide
<400> 116
Tyr Ile Ser Pro Ser Gly Gly Lys Thr Leu Tyr Ala Asp Ser Val Lys
Gly
<210> 117
<211> 12
<212> PRT
<213> Artificial Sequence
<223> Synthetically generated peptide
<400> 117
His Leu Gly Tyr Gly Ser Gly Ser Tyr Phe Asp Tyr
<210> 118
<211> 116
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 118
Gln Tyr Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ser Pro Gly Gln
Thr Ala Thr Ile Ile Cys Ser Gly Asp Lys Leu Gly Asp Lys Tyr Val
Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Val Leu Val Val Tyr
                            40
Glu Asp Asn Lys Arg Pro Ser Gly Ile Pro Glu Arg Ile Ser Gly Ser
Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Thr Gln Ala Met
                                         75
Asp Asp Ala Asp Tyr Tyr Cys Gln Ala Trp Asp Arg Ser Thr Asp His
                85
                                     90
Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gln Pro Lys
            100
                                105
Ala Asn Pro Thr
        115
<210> 119
<211> 131
<212> PRT
<213> Artificial Sequence
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<220>
<223> Heavy Chain amino acid sequence
<400> 119
Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
Arg Met Pro Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                            40
Ser Tyr Ile Tyr Ser Ser Gly Gly Ile Thr Gln Tyr Ala Asp Ser Val
                        55
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                    90
Ala Arg Ser Arg Ser Tyr Tyr Gly Ser Gly Ser Ser Arg Tyr Trp Gly
                               105
Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
        115
                            120
                                                 125
Val Phe Pro
    130
<210> 120
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Synthetically generated peptide
<400> 120
Ser Gly Asp Lys Leu Gly Asp Lys Tyr Val Ala
<210> 121
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Synthetically generated peptide
<400> 121
Glu Asp Asn Lys Arg Pro Ser
                 5
<210> 122
<211> 11
<212> PRT
<213> Artificial Sequence
<223> Synthetically generated peptide
<400> 122
Gln Ala Trp Asp Arg Ser Thr Asp His Tyr Val
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5
                                     10
 1
<210> 123
<211> 5
<212> PRT
<213> Artificial Sequence
<220>
<223> Synthetically generated peptide
<400> 123
Asn Tyr Arg Met Pro
<210> 124
<211> 17
<212> PRT
<213> Artificial Sequence
<223> Synthetically generated peptide
<400> 124
Tyr Ile Tyr Ser Ser Gly Gly Ile Thr Gln Tyr Ala Asp Ser Val Lys
1
                                     10
Gly
<210> 125
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> Synthetically generated peptide
<400> 125
Ser Arg Ser Tyr Tyr Gly Ser Gly Ser Ser Arg Tyr
                 5
<210> 126
<211> 108
<212> PRT
<213> Unknown
<220>
<223> Synthetically generated peptide
<223> Light Chain amino acid sequence
<400> 126
Gln Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Phe Ser Ala Ser Thr
Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Ser
                                 25
Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu
                            40
```

```
Ile Tyr Ala Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Lys Phe Ser
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln
                                         75
                    70
Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Ser Tyr Pro
Leu Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
<210> 127
<211> 123
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 127
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
                                     10
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Trp Tyr
Thr Met Val Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                             40
Ser Ser Ile Tyr Ser Ser Gly Gly Phe Thr Trp Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                     90
Ala Ser Asp Phe Gly Ser Trp Gly Gln Gly Thr Leu Val Thr Val Ser
                                105
Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
                             120
<210> 128
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Synthetically generated peptide
<400> 128
Arg Ala Ser Gln Gly Ile Ser Ser Tyr Leu Ala
<210> 129
<211> 7
<212> PRT
<213> Artificial Sequence
<223> Synthetically generated peptide
<400> 129
Ala Ala Ser Thr Leu Gln Ser
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1
                5
<210> 130
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
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<400> 130
Gln Gln Tyr Asn Ser Tyr Pro Leu Thr
<210> 131
<211> 5
<212> PRT
<213> Artificial Sequence
<223> Synthetically generated peptide
<400> 131
Trp Tyr Thr Met Val
<210> 132
<211> 17
<212> PRT
<213> Artificial Sequence
<220>
<223> Synthetically generated peptide
<400> 132
Ser Ile Tyr Ser Ser Gly Gly Phe Thr Trp Tyr Ala Asp Ser Val Lys
                 5
                                     10
                                                          15
Gly
<210> 133
<211> 4
<212> PRT
<213> Artificial Sequence
<223> Synthetically generated peptide
<400> 133
Asp Phe Gly Ser
1
<210> 134
<211> 116
<212> PRT
<213> Artificial Sequence
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<220>
<223> Light Chain amino acid sequence
<400> 134
Gln Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Tyr Ala Ser Val
Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asn
Glu Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Gln Arg Leu
                            40
Ile Tyr Asp Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser
Gly Gly Ser Arg Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Glu
Pro His Asp Phe Gly Thr Tyr Tyr Cys Gln Gln Tyr Ala Ser Tyr Pro
                                    90
Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala
                                105
Ala Pro Ser Val
        115
<210> 135
<211> 140
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 135
Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
                                25
Lys Met Pro Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Ser Ile Trp Ser Ser Gly Gly Thr Thr Glu Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                                        75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                    90
Ala Arg Glu Glu Ile Gly Arg Tyr Phe Asp Trp Phe Leu Gly Asn Tyr
                                105
Tyr Tyr Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val
                            120
Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
                        135
<210> 136
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
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<400> 136
Arg Ala Ser Gln Gly Ile Arg Asn Glu Leu Gly
                 5
<210> 137
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 137
Asp Ala Ser Thr Leu Gln Ser
<210> 138
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 138
Gln Gln Tyr Ala Ser Tyr Pro Leu Thr
<210> 139
<211> 5
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 139
Asp Tyr Lys Met Pro
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<210> 140
<211> 17
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 140
Ser Ile Trp Ser Ser Gly Gly Thr Thr Glu Tyr Ala Asp Ser Val Lys
 1
                                     10
Gly
<210> 141
<211> 21
<212> PRT
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<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 141
Glu Glu Ile Gly Arg Tyr Phe Asp Trp Phe Leu Gly Asn Tyr Tyr Tyr
Tyr Gly Met Asp Val
            20
<210> 142
<211> 118
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 142 '
Gln Ser Ala Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
                                    10
Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
                                25
Phe Val Tyr Trp Tyr His His Leu Pro Gly Thr Ala Pro Lys Leu Leu
Ile Tyr Arg Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
                       - 55
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
                    70
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu
                                    90
Ser Gly Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln
            100
                                105
Pro Lys Ala Ala Pro Ser
        115
<210> 143
<211> 128
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 143
Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
                                    10
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Gln Tyr
Lys Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Tyr Ile Ser Pro Ser Gly Gly Tyr Thr Ala Tyr Ala Asp Ser Val
                        55
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
```

```
85
                                     90
Ala Arg Asp Val Val Ala Gly Pro Phe Asp Tyr Trp Gly Gln Gly Thr
            100
                                 105
Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
                             120
<210> 144
<211> 13
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 144
Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn Phe Val Tyr
<210> 145
<211> 7
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 145
Arg Asn Asn Gln Arg Pro Ser
<210> 146
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 146
Ala Ala Trp Asp Asp Ser Leu Ser Gly Val Val
                 5
<210> 147
<211> 5
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 147
Gln Tyr Lys Met Asn
1
<210> 148
<211> 17
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<212> PRT

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<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 148
Tyr Ile Ser Pro Ser Gly Gly Tyr Thr Ala Tyr Ala Asp Ser Val Lys
Gly
<210> 149
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 149
Asp Val Val Ala Gly Pro Phe Asp Tyr
                 5
<210> 150
<211> 116
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 150
Gln Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val
Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Asn
                                25
Tyr Leu Ala Trp Phe Gln Gln Lys Pro Gly Arg Ala Pro Lys Ser Leu
Ile Tyr Gly Ala Ser Ser Leu Gln Thr Gly Val Pro Ser Lys Phe Ser
Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Leu Gln
                    70
                                        75
Pro Glu Asp Val Ala Thr Tyr Tyr Cys His Gln Tyr Asn His Tyr Pro
                                    90
Pro Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala
                                105
Ala Pro Ser Val
        115
<210> 151
<211> 129
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
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<400> 151
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Tyr
Pro Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Trp Ile Ser Pro Ser Gly Gly Lys Thr Val Tyr Ala Asp Ser Val
                        55
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
                                         75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
Ala Lys Asp Cys Arg Gly Gly Cys Ser Gly Gly Ser Trp Gly Gln Gly
            100
Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
                             120
Pro
<210> 152
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 152
Arg Ala Ser Gln Asp Ile Ser Asn Tyr Leu Ala
<210> 153
<211> 7
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 153
Gly Ala Ser Ser Leu Gln Thr
<210> 154
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 154
His Gln Tyr Asn His Tyr Pro Pro Thr
<210> 155
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<211> 5
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 155
Lys Tyr Pro Met Phe
<210> 156
<211> 17
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 156
Trp Ile Ser Pro Ser Gly Gly Lys Thr Val Tyr Ala Asp Ser Val Lys
1
                                     10
Gly
<210> 157
<211> 10
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 157
Asp Cys Arg Gly Gly Cys Ser Gly Gly Ser
<210> 158
<211> 116
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 158
Gln Asp Ile Gln Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro
                                     10
Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Asp Val Asn Arg
Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Arg Leu Leu
Ile Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Ile Ser
                        55
Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln
                                        75
Ser Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr His Asn Trp Pro
```

```
90
                85
Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala
                                105
            100
Ala Pro Ser Val
        115
<210> 159
<211> 123
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 159
Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Arg Tyr
Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                            40
Ser Tyr Ile Ser Pro Ser Gly Gly Met Thr Lys Tyr Ala Asp Ser Val
                        55
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
Ala Asn Thr Leu Gly Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser
                                105
Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
                            120
<210> 160
<211> 11
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 160
Arg Ala Ser Gln Asp Val Asn Arg Tyr Leu Ala
<210> 161
<211> 7
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
Gly Ala Ser Thr Arg Ala Thr
                 5
<210> 162
```

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<211> 9
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 162
Gln Gln Tyr His Asn Trp Pro Leu Thr
<210> 163
<211> 5
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 163
Arg Tyr Ser Met Asn
<210> 164
<211> 17
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 164
Tyr Ile Ser Pro Ser Gly Gly Met Thr Lys Tyr Ala Asp Ser Val Lys
Gly
<210> 165
<211> 4
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 165
Thr Leu Gly Tyr
1
<210> 166
<211> 119
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
```

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<400> 166
Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Tyr Tyr
                                 25
Asp Tyr Val Ser Trp Tyr Gln His His Pro Gly Lys Ala Pro Lys Leu
                            40
Ile Ile Tyr Asp Val Thr Ser Arg Pro Ser Gly Val Ser Ser His Phe
Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
                    70
                                        75
Gln Ala Asp Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Thr Ser Gly
                                    90
Ser Thr Arg Tyr Val Phe Gly Pro Gly Thr Lys Val Thr Val Leu Gly
Gln Pro Lys Ala Asn Pro Thr
        115
<210> 167
<211> 131
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 167
Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
                                    10
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
                                25
Tyr Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                            40
Ser Arg Ile Tyr Pro Ser Gly Gly His Thr Trp Tyr Ala Asp Ser Val
                        55
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                    90
Ala Arg His Arg Ala Gly Ser Ser Gly Trp Tyr Ser Asp Tyr Trp Gly
            100
                                105
Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
                            120
Val Phe Pro
    130
<210> 168
<211> 14
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 168
Thr Gly Thr Ser Ser Asp Val Gly Tyr Tyr Asp Tyr Val Ser
```

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<210> 169
<211> 7
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 169
Asp Val Thr Ser Arg Pro Ser
<210> 170
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 170
Ser Ser Tyr Thr Ser Gly Ser Thr Arg Tyr Val
<210> 171
<211> 5
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 171
Asp Tyr Tyr Met Arg
<210> 172
<211> 17
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
Arg Ile Tyr Pro Ser Gly Gly His Thr Trp Tyr Ala Asp Ser Val Lys
1
                                     10
                                                         15
Gly
<210> 173
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
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<223> Heavy Chain amino acid sequence
<400> 173
His Arg Ala Gly Ser Ser Gly Trp Tyr Ser Asp Tyr
<210> 174
<211> 116
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 174
Gln Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val
Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Arg Asn
Tyr Leu Ala Trp Phe Gln Gln Lys Pro Gly Glu Ala Pro Lys Ser Leu
                            40
Ile Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Ser Ser Asn Phe Ser
                        55
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln
Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr His Arg Tyr Pro
Arg Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala
            100
                                105
Ala Pro Ser Val
        115
<210> 175
<211> 131
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 175
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ala Tyr
Asn Met Pro Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                            40
Ser Tyr Ile Ser Ser Ser Gly Thr Gly Tyr Ala Asp Ser Val Lys Gly
                        55
Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
Glu Leu Gly Ser Gly Ser Tyr Tyr Pro Gly Tyr Phe Gln His Trp Gly
                                105
Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
```

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Val Phe Pro
    130
<210> 176
<211> 11
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 176
Arg Ala Ser Gln Asp Ile Arg Asn Tyr Leu Ala
<210> 177
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 177
Ala Ala Ser Ser Leu Gln Ser
<210> 178
<211> 9
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 178
Gln Gln Tyr His Arg Tyr Pro Arg Thr
<210> 179
<211> 5
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 179
Ala Tyr Asn Met Pro
<210> 180
<211> 16
<212> PRT
<213> Artificial Sequence
<220>
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<223> Heavy Chain amino acid sequence
<400> 180
Tyr Ile Ser Ser Ser Gly Thr Gly Tyr Ala Asp Ser Val Lys Gly Arg
                                     10
<210> 181
<211> 14
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 181
Glu Leu Gly Ser Gly Ser Tyr Tyr Pro Gly Tyr Phe Gln His
<210> 182
<211> 116
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
Gln Asp Ile Gln Met Thr Gln Ser Pro Ala Thr Leu Tyr Val Ser Pro
Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Arg
Asn Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
Ile Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser
                        55
Gly Ser Gly Ser Arg Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln
Ser Glu Asp Phe Ala Val Tyr His Cys Gln Gln Tyr Asn Ser Arg Pro
Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala
Ala Pro Ser Val
        115
<210> 183
<211> 123
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
                                   10
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Trp Tyr
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Phe Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Ser Ile Tyr Pro Ser Gly Gly Tyr Thr Met Tyr Ala Asp Ser Val
                         55
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Lys Thr Leu Tyr
                                         75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
Ala Ser Asp Phe Gly Ser Trp Gly Gln Gly Thr Leu Val Thr Val Ser
            100
                                 105
Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
                             120
<210> 184
<211> 11
<212> PRT
<213> Artificial Sequence
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<223> Light Chain amino acid sequence
<400> 184
Arg Ala Ser Gln Ser Val Ser Arg Asn Leu Ala
<210> 185
<211> 7
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 185
Gly Ala Ser Thr Arg Ala Thr
<210> 186
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 186
Gln Gln Tyr Asn Ser Arg Pro Leu Thr
<210> 187
<211> 5
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
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<400> 187
Trp Tyr Phe Met Asn
<210> 188
<211> 17
<212> PRT
<213> Artificial Sequence
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<223> Heavy Chain amino acid sequence
<400> 188
Ser Ile Tyr Pro Ser Gly Gly Tyr Thr Met Tyr Ala Asp Ser Val Lys
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Gly
<210> 189
<211> 4
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<223> Heavy Chain amino acid sequence
<400> 189
Asp Phe Gly Ser
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<210> 190
<211> 119
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 190
Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
                                     10
Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Tyr Tyr
                                25
Asp Tyr Val Ser Trp Tyr Gln His His Pro Gly Lys Ala Pro Lys Leu
                            40
Ile Ile Tyr Asp Val Thr Ser Arg Pro Ser Gly Val Ser Ser His Phe
                        55
                                             60
Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
                    70
                                        75
Gln Ala Asp Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Thr Ser Gly
                                     90
Ser Thr Arg Tyr Val Phe Gly Pro Gly Thr Lys Val Thr Val Leu Gly
                                105
Gln Pro Lys Ala Asn Pro Thr
        115
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<210> 191

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<211> 131
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 191
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
                                     10
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
Tyr Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Arg Ile Tyr Pro Ser Gly Gly His Thr Trp Tyr Ala Asp Ser Val
                        55
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                                         75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                    90
Ala Arg His Arg Ala Gly Ser Ser Gly Trp Tyr Ser Asp Tyr Trp Gly
                                105
Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
        115
                            120
Val Phe Pro
    130
<210> 192
<211> 14
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 192
Thr Gly Thr Ser Ser Asp Val Gly Tyr Tyr Asp Tyr Val Ser
                                    10
<210> 193
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 193
Asp Val Thr Ser Arg Pro Ser
<210> 194
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
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<223> Light Chain amino acid sequence
<400> 194
Ser Ser Tyr Thr Ser Gly Ser Thr Arg Tyr Val
<210> 195
<211> 5
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 195
Asp Tyr Tyr Met Arg
<210> 196
<211> 17
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
Arg Ile Tyr Pro Ser Gly Gly His Thr Trp Tyr Ala Asp Ser Val Lys
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Gly
<210> 197
<211> 12
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 197
His Arg Ala Gly Ser Ser Gly Trp Tyr Ser Asp Tyr
<210> 198
<211> 116
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
Gln Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val
                                     10
Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser
```

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Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu
Ile Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln
                                        75
Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Arg
Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala
                                105
            100
Ala Pro Ser Val
        115
<210> 199
<211> 137
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 199
Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Thr Tyr
Phe Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Tyr Ile Val Pro Ser Gly Gly Asn Thr Leu Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
                                        75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85
                                    90
Ala Arg Glu Glu Trp Asp Val Leu Leu Trp Phe Gly Glu Leu Ser Ala
                                105
Ala Phe Asp Ile Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
                            120
Ser Thr Lys Gly Pro Ser Val Phe Pro
                        135
<210> 200
<211> 11
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 200
Arg Ala Ser Gln Ser Ile Ser Ser Tyr Leu Asn
<210> 201
<211> 7
<212> PRT
<213> Artificial Sequence
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<220>
<223> Light Chain amino acid sequence
<400> 201
Ala Ala Ser Ser Leu Gln Ser
<210> 202
<211> 9
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 202
Gln Gln Ser Tyr Ser Thr Arg Trp Thr
<210> 203
<211> 5
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 203
Thr Tyr Phe Met Arg
<210> 204
<211> 17
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 204
Tyr Ile Val Pro Ser Gly Gly Asn Thr Leu Tyr Ala Asp Ser Val Lys
Gly
<210> 205
<211> 18
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
Glu Glu Trp Asp Val Leu Leu Trp Phe Gly Glu Leu Ser Ala Ala Phe
                                     10
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Asp Ile
<210> 206
<211> 116
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 206
Gln Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val
Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg His
                                25
Tyr Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Leu
Ile Tyr Ala Ala Ser Ser Leu Gln Phe Gly Val Pro Ala Arg Phe Ser
Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln
                    70
                                        75
Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Ser Phe Pro
Pro Ala Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala
            100
Ala Pro Ser Val
        115
<210> 207
<211> 132
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 207
Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Pro Tyr
                                25
Asp Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                            40
Ser Tyr Ile Ser Ser Ser Gly Gly Lys Thr Met Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
                                        75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                    90
Ala Arg Leu Gly Gly Asn Ser His Tyr Tyr Tyr Gly Met Asp Val Trp
                                105
Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
        115
Ser Val Phe Pro
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130

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<210> 208
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 208
Arg Ala Ser Gln Gly Ile Arg His Tyr Leu Gly
<210> 209
<211> 7
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 209
Ala Ala Ser Ser Leu Gln Phe
<210> 210
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 210
Leu Gln His Asn Ser Phe Pro Pro Ala
<210> 211
<211> 5
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 211
Pro Tyr Asp Met Trp
<210> 212
<211> 17
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 212
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Tyr Ile Ser Ser Ser Gly Gly Lys Thr Met Tyr Ala Asp Ser Val Lys
Gly
<210> 213
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 213
Leu Gly Gly Asn Ser His Tyr Tyr Tyr Gly Met Asp Val
<210> 214
<211> 118
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 214
Gln Ser Glu Leu Thr Gln Pro Pro Ser Ala Ser Ala Thr Pro Gly Gln
Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Arg Asn
                                 25
Leu Val Tyr Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
                    70
                                         75
Ser Glu Glu Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu
Ser Gly Trp Val Phe Gly Gly Gly Thr Arg Leu Thr Val Leu Gly Gln
            100
                                 105
Pro Lys Ala Ala Pro Ser
        115
<210> 215
<211> 131
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 215
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Trp Tyr
His Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
```

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40
Ser Ile Tyr Pro Ser Gly Gly Val Thr Ser Tyr Ala Asp Ser Val Lys
                        55
Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                                     90
Arg Glu Thr Ser Gly Trp Tyr Arg Asp Arg Trp Phe Asp Pro Trp Gly
                                105
                                                     110
Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
                             120
Val Phe Pro
    130
<210> 216
<211> 13
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 216
Ser Gly Ser Ser Ser Asn Ile Gly Arg Asn Leu Val Tyr
<210> 217
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 217
Ser Asn Asn Gln Arg Pro Ser
<210> 218
<211> 11
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 218
Ala Ala Trp Asp Asp Ser Leu Ser Gly Trp Val
<210> 219
<211> 5
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
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<400> 219
Trp Tyr His Met Arg
<210> 220
<211> 16
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 220
Ile Tyr Pro Ser Gly Gly Val Thr Asp Tyr Ala Asp Ser Val Lys Gly
                                     10
<210> 221
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 221
Glu Thr Ser Gly Trp Tyr Arg Asp Arg Trp Phe Asp Pro
                 5
<210> 222
<211> 119
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 222
Gln Ser Val Leu Thr Gln Thr Ala Ser Val Ser Gly Ser Pro Gly Gln
Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Ile Gly Asp Tyr
                                25
Glu Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Val
                            40
Ile Leu Tyr Glu Val Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
                    70
                                        75
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ser Tyr Arg Lys Ser
                                     90
Ser Thr Pro Tyr Val Phe Gly Thr Gly Thr Lys Val Ser Val Leu Gly
            100
                                105
Gln Pro Lys Ala Asn Pro Thr
        115
<210> 223
<211> 138
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<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 223
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
                                     10
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Tyr
                                 25
His Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Val Ile Val Pro Ser Gly Gly Gly Thr Gln Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
Ala Arg Asp Gly His Ser Ser Srr Trp Tyr Gly Gly Ala His Tyr
                                105
Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
                            120
Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
    130
                        135
<210> 224
<211> 14
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 224
Thr Gly Thr Ser Ser Asp Ile Gly Asp Tyr Glu Tyr Val Ser
<210> 225
<211> 8
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 225
Tyr Glu Val Ser Asn Arg Pro Ser
<210> 226
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
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<400> 226
Gly Ser Tyr Arg Lys Ser Ser Thr Pro Tyr Val
                 5
<210> 227
<211> 5
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 227
Tyr Tyr His Met Trp
<210> 228
<211> 17
<212> PRT
<213> Artificial Sequence
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<223> Heavy Chain amino acid sequence
<400> .228
Val Ile Val Pro Ser Gly Gly Gly Thr Gln Tyr Ala Asp Ser Val Lys
1
Gly
<210> 229
<211> 19
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
Asp Gly His Ser Ser Ser Trp Tyr Gly Gly Gly Ala His Tyr Tyr Gly
1
Met Asp Val
<210> 230
<211> 116
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 230
Gln Asp Ile Gln Met Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro
                                     10
Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser
```

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20
                                25
Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
                            40
Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Gly Arg Leu Glu
                                        75
                    70
Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Ser Ser Pro
                                    90
Val Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Arg Thr Val Ala
            100
                                105
Ala Pro Ser Val
        115
<210> 231
<211> 123
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 231
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
                                    10
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
Arg Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Gly Ile Val Pro Ser Gly Gly Lys Thr Phe Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                    90
Ala Ser Asp Phe Gly Ser Trp Gly Gln Gly Thr Leu Val Thr Val Ser
Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
                            120
<210> 232
<211> 11
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 232
Arg Ala Ser Gln Ser Val Ser Ser Tyr Leu Ala
<210> 233
<211> 7
<212> PRT
<213> Artificial Sequence
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<220>
<223> Light Chain amino acid sequence
<400> 233
Gly Ala Ser Ser Arg Ala Thr
<210> 234
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 234
Gln Gln Tyr Ser Ser Ser Pro Val Thr
<210> 235
<211> 5
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 235
Ser Tyr Arg Met Asn
<210> 236
<211> 17
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
Gly Ile Val Pro Ser Gly Gly Lys Thr Phe Tyr Ala Asp Ser Val Lys
1
                                     10
Gly
<210> 237
<211> 4
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 237
Asp Phe Gly Ser
1
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<210> 238
<211> 116
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 238
Gln Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val
                                    10
Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Arg Ile Ser Ser
                                25
Tyr Val Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu
Ile Tyr Ser Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser
Gly Ser Val Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln
                    70
                                         75
Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Arg Thr Pro
Pro Phe Phe Gly Gln Gly Thr Lys Leu Glu Val Lys Arg Thr Val Ala
                                105
            100
Ala Pro Ser Val
       115
<210> 239
<211> 129
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 239
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Leu Tyr
Gln Met Leu Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Gly Ile Val Ser Ser Gly Gly Leu Thr Gly Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85
                                    90
Ala Arg His Asn Arg Ala Ile Gly Thr Phe Asp Tyr Trp Gly Gln Gly
                                105
Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
        115
                            120
                                                 125
Pro
<210> 240
<211> 11
<212> PRT
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<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 240
Arg Ala Ser Gln Arg Ile Ser Ser Tyr Val Asn
<210> 241
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 241
Ser Ala Ser Ser Leu Gln Ser
<210> 242
<211> 9
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 242
Gln Gln Ser Tyr Arg Thr Pro Pro Phe
<210> 243
<211> 5
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 243
Leu Tyr Gln Met Leu
<210> 244
<211> 17
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 244
Gly Ile Val Ser Ser Gly Gly Leu Thr Gly Tyr Ala Asp Ser Val Lys
Gly
```

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<210> 245
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Heavy Chain amino acid sequence
<400> 245
His Asn Arg Ala Ile Gly Thr Phe Asp Tyr
                                    10
<210> 246
<211> 115
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 246
Gln Asp Ile Gln Met Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro
Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Arg
Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
Ile Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser
Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln
                    70
                                        75
Ser Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro
                                    90
Ser Phe Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
                                105
Pro Ser Val
        115
<210> 247
<211> 123
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
Ser Met Asp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Trp Ile Ser Pro Ser Gly Gly Leu Thr Thr Tyr Ala Asp Ser Val
```

```
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                     70
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                     90
Ala Ser Asp Phe Gly Ser Trp Gly Gln Gly Thr Leu Val Thr Val Ser
                                 105
Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
        115
<210> 248
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
Arg Ala Ser Gln Ser Val Ser Arg Tyr Leu Ala
                                     10
<210> 249
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 249
Gly Ala Ser Thr Arg Ala Thr
<210> 250
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 250
Gln Gln Tyr Asn Asn Trp Pro Ser
<210> 251
<211> 5
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 251
Asn Tyr Ser Met Asp
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<210> 252
<211> 17
<212> PRT
<213> Artificial Sequence
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<223> Heavy Chain amino acid sequence
<400> 252
Trp Ile Ser Pro Ser Gly Gly Leu Thr Thr Tyr Ala Asp Ser Val Lys
Gly
<210> 253
<211> 4
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 253
Asp Phe Gly Ser
<210> 254
<211> 124
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 254
Gln Ser Val Leu Thr Gln Pro Pro Tyr Ala Ser Ala Ser Leu Gly Ala
Ser Val Thr Leu Thr Cys Thr Leu Ser Ser Gly Tyr Ser Asn Tyr Lys
Val Asp Trp Tyr Gln Gln Arg Pro Gly Lys Gly Pro Gln Phe Val Met
Arg Val Gly Ser Gly Gly Ile Val Gly Ser Lys Gly Asp Gly Ile Pro
Asp Arg Phe Ser Val Leu Gly Ser Gly Leu Tyr Arg Tyr Leu Thr Ile
                    70
Lys Asn Ile Gln Glu Glu Asp Glu Ser Asp Tyr Tyr Cys Gly Ala Asp
His Gly Arg Gly Gly Thr Phe Val Trp Val Phe Gly Gly Thr Lys
                                105
Leu Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser
        115
                            120
<210> 255
<211> 136
<212> PRT
<213> Artificial Sequence
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<220>

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<223> Heavy Chain amino acid sequence
<400> 255
Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Lys
Met Met Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
                            40
Tyr Ile Ser Ser Ser Gly Gly Ile Thr Thr Tyr Ala Asp Ser Val Lys
Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                                     90
Arg Asp Pro Thr Tyr Asp Phe Trp Ser Gly Tyr Tyr Tyr Tyr Tyr Tyr
                                105
Met Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser Ala Ser
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                                                 125
Thr Lys Gly Pro Ser Val Phe Pro
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<210> 256
<211> 12
<212> PRT
<213> Artificial Sequence
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<223> Light Chain amino acid sequence
<400> 256
Thr Leu Ser Ser Gly Tyr Ser Asn Tyr Lys Val Asp
<210> 257
<211> 13
<212> PRT
<213> Artificial Sequence
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<223> Light Chain amino acid sequence
Arg Val Gly Ser Gly Gly Ile Val Gly Ser Lys Gly Asp
<210> 258
<211> 13
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 258
Gly Ala Asp His Gly Arg Gly Gly Thr Phe Val Trp Val
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<211> 5
<212> PRT
<213> Artificial Sequence
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<223> Heavy Chain amino acid sequence
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Ser Tyr Lys Met Met
<210> 260
<211> 17
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<213> Artificial Sequence
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Tyr Ile Ser Ser Ser Gly Gly Ile Thr Thr Tyr Ala Asp Ser Val Lys
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Gly
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Arg Asp Pro Thr Tyr Asp Phe Trp Ser Gly Tyr Tyr Tyr Tyr Tyr Tyr
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Met Asp Val
<210> 262
<211> 118
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 262
Gln Ser Ala Leu Thr Gln Pro Ser Ser Ala Ser Gly Thr Pro Gly Gln
Arg Val Ser Ile Ser Cys Ser Gly Ser Ser Tyr Asn Ile Gly Val Tyr
                                25
Asp Val Tyr Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
```

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Ile Tyr Thr Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
                    70
                                         75
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu
Ser Gly Trp Val Phe Gly Gly Gly Thr Lys Val Thr Val Leu Gly Gln
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Pro Lys Ala Ala Pro Ser
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<223> Heavy Chain amino acid sequence
<400> 263
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Gln Tyr
                                 25
Asn Met Pro Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Ser Ile Val Pro Ser Gly Gly Phe Thr Ala Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
Ala Arg Val Asp Cys Ser Gly Gly Ser Cys Tyr Arg Gly Pro Gln Asn
                                 105
Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
                            120
Ser Thr Lys Gly Pro Ser Val Phe Pro
                        135
<210> 264
<211> 13
<212> PRT
<213> Artificial Sequence
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<223> Light Chain amino acid sequence
<400> 264
Ser Gly Ser Ser Tyr Asn Ile Gly Val Tyr Asp Val Tyr
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<210> 265
<211> 7
<212> PRT
<213> Artificial Sequence
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<223> Light Chain amino acid sequence
<400> 265
Thr Asn Asn Gln Arg Pro Ser
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<211> 11
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 266
Ala Ala Trp Asp Asp Ser Leu Ser Gly Trp Val
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<210> 267
<211> 5
<212> PRT
<213> Artificial Sequence
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<223> Light Chain amino acid sequence
<400> 267
Gln Tyr Asn Met Pro
<210> 268
<211> 17
<212> PRT
<213> Artificial Sequence
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<223> Heavy Chain amino acid sequence
<400> 268
Ser Ile Val Pro Ser Gly Gly Phe Thr Ala Tyr Ala Asp Ser Val Lys
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Gly
<210> 269
<211> 18
<212> PRT
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<223> Light Chain amino acid sequence
Val Asp Cys Ser Gly Gly Ser Cys Tyr Arg Gly Pro Gln Asn Tyr Phe
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Asp Tyr
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<211> 119
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 270
Gln Tyr Glu Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
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Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Gly Tyr
Asn Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
                          . 40
Met Ile Tyr Glu Val Ser Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
Ser Gly Ser Lys Ser Asp Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ser Tyr Arg Lys Ser
                                    90
Ser Thr Pro Tyr Val Phe Gly Thr Gly Thr Lys Val Ser Val Leu Gly
            100
                                105
Gln Pro Lys Ala Asn Pro Thr
        115
<210> 271
<211> 135
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 271
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Gln Tyr
Met Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Tyr Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
                                        75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                    90
Ala Arg Asp Pro Gly Val Ala Val Ala Gly Tyr Tyr Tyr Gly Met
         . 100
                                105
Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr
                            120
Lys Gly Pro Ser Val Phe Pro
<210> 272
<211> 14
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<213> Artificial Sequence
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<223> Light Chain amino acid sequence
<400> 272
Thr Gly Thr Ser Ser Asp Val Gly Gly Tyr Asn Tyr Val Ser
<210> 273
<211> 7
<212> PRT
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<400> 273
Glu Val Ser Asn Arg Pro Ser
<210> 274
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<223> Light Chain amino acid sequence
Gly Ser Tyr Arg Lys Ser Ser Thr Pro Tyr Val
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<210> 275
<211> 5
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 275
Gln Tyr Met Met Thr
<210> 276
<211> 17
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
Tyr Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr Ala Asp Ser Val Lys
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Gly
<210> 277
<211> 16
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<223> Heavy Chain amino acid sequence
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Asp Pro Gly Val Ala Val Ala Gly Tyr Tyr Tyr Gly Met Asp Val
                                    10
<210> 278
<211> 116
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 278
Gln Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val
                                    10
Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Gly Ile Ser Arg
                                25
Trp Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu
                            40
Ile Tyr Gly Ala Ser Thr Leu Gln Lys Gly Val Pro Ser Arg Phe Thr
                        55
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Ser Leu Gln
                    70
Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Asn Ser Phe Pro
                                    90
                85
Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg Thr Val Ala
                                105
Ala Pro Ser Val
        115
<210> 279
<211> 132
<212> PRT
<213> Artificial Sequence
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<223> Heavy Chain amino acid sequence
<400> 279
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Gly Tyr
Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Val Ile Arg Pro Ser Gly Gly Lys Thr Gly Tyr Ala Asp Ser Val
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55
                                             60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Phe Lys Asn Thr Leu Tyr
                    70
                                         75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
Ala Arg Val Arg Ala Pro Gly Tyr Tyr Tyr Tyr Gly Met Asp Val Trp
            100
                                 105
Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
        115
                             120
Ser Val Phe Pro
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<210> 280
<211> 11
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<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 280
Arg Ala Ser Arg Gly Ile Ser Arg Trp Leu Ala
<210> 281
<211> 7
<212> PRT
<213> Artificial Sequence
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<223> Light Chain amino acid sequence
<400> 281
Gly Ala Ser Thr Leu Gln Lys
<210> 282
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<212> PRT
<213> Artificial Sequence
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<223> Light Chain amino acid sequence
<400> 282
Gln Gln Gly Asn Ser Phe Pro Phe Thr
<210> 283
<211> 5
<212> PRT
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<223> Heavy Chain amino acid sequence
<400> 283
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Gly Tyr Trp Met Ser
<210> 284
<211> 17
<212> PRT
<213> Artificial Sequence
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<223> Heavy Chain amino acid sequence
<400> 284
Val Ile Arg Pro Ser Gly Gly Lys Thr Gly Tyr Ala Asp Ser Val Lys
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Gly
<210> 285
<211> 13
<212> PRT
<213> Artificial Sequence
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<223> Heavy Chain amino acid sequence
<400> 285
Val Arg Ala Pro Gly Tyr Tyr Tyr Tyr Gly Met Asp Val
<210> 286
<211> 119
<212> PRT
<213> Artificial Sequence
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<223> Light Chain amino acid sequence
<400> 286
Gln Ser Val Leu Thr Gln Thr Ala Ser Val Ser Gly Ser Pro Gly Gln
                                     10
Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Ile Gly Asp Tyr
Glu Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Val
                            40
Ile Leu Tyr Glu Val Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
                        55
                                             60
Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
                    70
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ser Tyr Arg Lys Ser
                                    90
Ser Thr Pro Tyr Val Phe Gly Thr Gly Thr Lys Val Ser Val Leu Gly
                                105
Gln Pro Lys Ala Asn Pro Thr
        115
<210> 287
<211> 138
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<223> Light Chain amino acid sequence
<400> 287
Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Tyr
                                25
His Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Val Ile Val Pro Ser Gly Gly Gly Thr Gln Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
Ala Arg Asp Gly His Ser Ser Ser Trp Tyr Gly Gly Gly Ala His Tyr
                                105
Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
                            120
Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
    130
                        135
<210> 288
<211> 14
<212> PRT
<213> Artificial Sequence
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<223> Light Chain amino acid sequence
<400> 288
Thr Gly Thr Ser Ser Asp Ile Gly Asp Tyr Glu Tyr Val Ser
<210> 289
<211> 8
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
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Tyr Glu Val Ser Asn Arg Pro Ser
<210> 290
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
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<400> 290
Gly Ser Tyr Arg Lys Ser Ser Thr Pro Tyr Val
                 5
<210> 291
<211> 5
<212> PRT
<213> Artificial Sequence
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<223> Heavy Chain amino acid sequence
<400> 291
Tyr Tyr His Met Trp
<210> 292
<211> 17
<212> PRT
<213> Artificial Sequence
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<223> Heavy Chain amino acid sequence
<400> 292
Val Ile Val Pro Ser Gly Gly Gly Thr Gln Tyr Ala Asp Ser Val Lys
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Gly
<210> 293
<211> 19
<212> PRT
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Asp Gly His Ser Ser Ser Trp Tyr Gly Gly Gly Ala His Tyr Tyr Gly
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Met Asp Val
<210> 294
<211> 116
<212> PRT
<213> Artificial Sequence
<223> Light Chain amino acid sequence
<400> 294
Gln Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val
                                     10
Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asn
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25
Asp Leu Gly Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Arg Arg Leu
Ile Trp Gly Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser
                        55
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln
                                        75
Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Asp Tyr Asn Tyr Pro
                                    90
Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala
                                105
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Ala Pro Ser Val
        115
<210> 295
<211> 132
<212> PRT
<213> Artificial Sequence
<223> Heavy Chain amino acid sequence
<400> 295
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Phe Tyr
Gly Met Pro Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Gly Ile Tyr Pro Ser Gly Gly Val Thr Arg Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                    90
Ala Lys Thr Tyr Ser Ser Ser Trp Tyr Gly Trp Tyr Phe Asp Tyr Trp
           100
                                105
Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
        115
                            120
Ser Val Phe Pro
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<210> 296
<211> 11
<212> PRT
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<223> Light Chain amino acid sequence
<400> 296
Arg Ala Ser Gln Gly Ile Arg Asn Asp Leu Gly
<210> 297
<211> 7
<212> PRT
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<213> Artificial Sequence
<220>
<223> Light Chain amino acid sequence
<400> 297
Gly Ala Ser Thr Leu Gln Ser
<210> 298
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<213> Artificial Sequence
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<223> Light Chain amino acid sequence
<400> 298
Leu Gln Asp Tyr Asn Tyr Pro Tyr Thr
<210> 299
<211> 5
<212> PRT
<213> Artificial Sequence
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<400> 299
Phe Tyr Gly Met Pro
<210> 300
<211> 17
<212> PRT
<213> Artificial Sequence
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<223> Heavy Chain amino acid sequence
<400> 300
Gly Ile Tyr Pro Ser Gly Gly Val Thr Arg Tyr Ala Asp Ser Val Lys
Gly
<210> 301
<211> 13
<212> PRT
<213> Unknown
<223> Heavy Chain amino acid sequence
<400> 301
Thr Tyr Ser Ser Ser Trp Tyr Gly Trp Tyr Phe Asp Tyr
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<210> 302
<211> 117
<212> PRT
<213> Unknown
<220>
<223> Light Chain amino acid sequence
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Gln Asp Ile Gln Met Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro
Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser
Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
                            40
Leu Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe
Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser
                                    90
Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val
                                105
Ala Ala Pro Ser Val
        115
<210> 303
<211> 130
<212> PRT
<213> Unknown
<220>
<223> Heavy Chain amino acid sequence
<400> 303
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
                                    10
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Phe Tyr
Pro Met Pro Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Tyr Ile Ser Pro Ser Gly Gly Asp Thr Thr Tyr Ala Asp Ser Val
                        55
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Phe Tyr
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85
                                    90
Ala Arg Gly Gly Ser Tyr Ser Ser Ser Trp Tyr Gly Tyr Trp Gly Gln
                                105
Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
                            120
Phe Pro
   130
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<210> 304

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Arg Ala Ser Gln Ser Val Ser Ser Ser Tyr Leu Ala
<210> 305
<211> 7
<212> PRT
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<220>
<223> Light Chain amino acid sequence
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Gly Ala Ser Ser Arg Ala Thr
<210> 306
<211> 9
<212> PRT
<213> Unknown
<220>
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Gln Gln Tyr Gly Ser Ser Pro Trp Thr
<210> 307
<211> 5
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<220>
<223> Heavy Chain amino acid sequence
<400> 307
Phe Tyr Pro Met Pro
<210> 308
<211> 17
<212> PRT
<213> Unknown
<223> Heavy Chain amino acid sequence
<400> 308
Tyr Ile Ser Pro Ser Gly Gly Asp Thr Thr Tyr Ala Asp Ser Val Lys
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Gly
<210> 309
<211> 11
<212> PRT
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<400> 309
Gly Gly Ser Tyr Ser Ser Ser Trp Tyr Gly Tyr
                 5
<210> 310
<211> 116
<212> PRT
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<220>
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Gln Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val
Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Gly Ile Ser Arg
                                 25
Trp Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu
Ile Tyr Gly Ala Ser Thr Leu Gln Lys Gly Val Pro Ser Arg Phe Thr
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Ser Leu Gln
                    70
                                         75
Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Asn Ser Phe Pro
                                     90
Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg Thr Val Ala
            100
                                 105
Ala Pro Ser Val
        115
<210> 311
<211> 132
<212> PRT
<213> Unknown
<223> Heavy Chain amino acid sequence
<400> 311
Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Gly Tyr
                                25
Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
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Ser Val Ile Arg Pro Ser Gly Gly Lys Thr Gly Tyr Ala Asp Ser Val
                        55
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Phe Lys Asn Thr Leu Tyr
                    70
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
Ala Arg Val Arg Ala Pro Gly Tyr Tyr Tyr Tyr Gly Met Asp Val Trp
                                105
Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
                            120
                                                 125
Ser Val Phe Pro
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<210> 312
<211> 11
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<400> 312
Arg Ala Ser Arg Gly Ile Ser Arg Trp Leu Ala
<210> 313
<211> 7
<212> PRT
<213> Unknown
<223> Light Chain amino acid sequence
<400> 313
Gly Ala Ser Thr Leu Gln Lys
<210> 314
<211> 9
<212> PRT
<213> Unknown
<220>
<223> Light Chain amino acid sequence
<400> 314
Gln Gln Gly Asn Ser Phe Pro Phe Thr
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<210> 315
<211> 5
<212> PRT
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<220>
<223> Heavy Chain amino acid sequence
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<400> 315
Gly Tyr Trp Met Ser
<210> 316
<211> 17
<212> PRT
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<223> Heavy Chain amino acid sequence
<400> 316
Val Ile Arg Pro Ser Gly Gly Lys Thr Gly Tyr Ala Asp Ser Val Lys
Gly
<210> 317
<211> 13
<212> PRT
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<220>
<223> Heavy Chain amino acid sequence
<400> 317
Val Arg Ala Pro Gly Tyr Tyr Tyr Tyr Gly Met Asp Val
<210> 318
<211> 118
<212> PRT
<213> Unknown
<220>
<223> Light Chain amino acid sequence
<400> 318
Gln Ser Val Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Gly Tyr
                                 25
Asn Tyr Val Ser Trp Tyr Gln Arg His Pro Gly Lys Ala Pro Lys Leu
Ile Ile Tyr Asp Val Thr Asn Arg Pro Ser Gly Ala Ser Arg His Phe
Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
                    70
                                         75
Gln Ala Asp Asp Glu Ala Asp Tyr Tyr Cys Val Ser Phe Thr Asn Ser
                                     90
Asn Thr Phe Val Phe Gly Ser Gly Thr Arg Val Thr Val Leu Gly Gln
            100
                                105
Pro Lys Ala Asn Pro Thr
        115
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<210> 319

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<211> 138
<212> PRT
<213> Unknown
<220>
<223> Heavy Chain amino acid sequence
<400> 319
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Leu Tyr
His Met Asp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Val Ile Tyr Pro Ser Gly Gly Gly Thr Pro Tyr Ala Asp Ser Val
                        55
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                                        75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                    90
Ala Arg Arg Val Gly Tyr Cys Ser Gly Gly Ser Cys Tyr Tyr Tyr
            100
                                105
Tyr Tyr Met Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
                            120
Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
                        135
<210> 320
<211> 14
<212> PRT
<213> Unknown
<223> Light Chain amino acid sequence
<400> 320
Thr Gly Thr Ser Ser Asp Val Gly Gly Tyr Asn Tyr Val Ser
<210> 321
<211> 6
<212> PRT
<213> Unknown
<220>
<223> Light Chain amino acid sequence
<400> 321
Asp Val Thr Asn Arg Pro
<210> 322
<211> 10
<212> PRT
<213> Unknown
<220>
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<223> Light Chain amino acid sequence
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Val Ser Phe Thr Asn Ser Asn Thr Phe Val
                 5
<210> 323
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<213> Unknown
<223> Heavy Chain amino acid sequence
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Leu Tyr His Met Asp
<210> 324
<211> 17
<212> PRT
<213> Unknown
<223> Heavy Chain amino acid sequence
Val Ile Tyr Pro Ser Gly Gly Gly Thr Pro Tyr Ala Asp Ser Val Lys
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Gly
<210> 325
<211> 19
<212> PRT
<213> Unknown
<223> Heavy Chain amino acid sequence
<400> 325
Arg Val Gly Tyr Cys Ser Gly Gly Ser Cys Tyr Tyr Tyr Tyr Tyr Tyr
Met Asp Val
<210> 326
<211> 116
<212> PRT
<213> Unknown
<223> Light Chain amino acid sequence
Gln Asp Ile Gln Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro
                 5
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Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Arg Ser
Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
Ile Tyr Asp Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser
Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln
Ser Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro
                                    90
Pro Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala
                                105
Ala Pro Ser Val
        115
<210> 327
<211> 123
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<223> Heavy Chain amino acid sequence
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Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Trp Tyr
Arg Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Ser Ile Val Pro Ser Gly Gly Tyr Thr Arg Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
                                        75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                    90
Ala Ser Asp Phe Gly Ser Trp Gly Gln Gly Thr Leu Val Thr Val Ser
                                105
Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
<210> 328
<211> 11
<212> PRT
<213> Unknown
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<223> Light Chain amino acid sequence
<400> 328
Arg Ala Ser Gln Ser Val Arg Ser Tyr Leu Ala
<210> 329
<211> 7
<212> PRT
<213> Unknown
```

```
<223> Light Chain amino acid sequence
<400> 329
Asp Ala Ser Thr Arg Ala Thr
<210> 330
<211> 9
<212> PRT
<213> Unknown
<220>
<223> Light Chain amino acid sequence
<400> 330
Gln Gln Tyr Asn Asn Trp Pro Pro Thr
<210> 331
<211> 5
<212> PRT
<213> Unknown
<220>
<223> Heavy Chain amino acid sequence
<400> 331
Trp Tyr Arg Met Asn
 1
<210> 332
<211> 17
<212> PRT
<213> Unknown
<220>
<223> Heavy Chain amino acid sequence
<400> 332
Ser Ile Val Pro Ser Gly Gly Tyr Thr Arg Tyr Ala Asp Ser Val Lys
Gly
<210> 333
<211> 4
<212> PRT
<213> Unknown
<220>
<223> Heavy Chain amino acid sequence
<400> 333
Asp Phe Gly Ser
 1
```

```
<210> 334
<211> 123
<212> PRT
<213> Unknown
<220>
<223> Light Chain amino acid sequence
<400> 334
Phe Tyr Ser His Ser Ala Gln Ser Glu Leu Thr Gln Pro Pro Ser Ala
Ser Gly Thr Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Ser
Ser Asn Ile Gly Ser Asn Thr Val Asn Trp Tyr Gln Gln Leu Pro Gly
                            40
Thr Ala Pro Lys Leu Leu Ile Tyr Ser Asn Asn Tyr Arg Pro Ser Gly
                        55
Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
Ala Ile Ser Gly Leu Gln Ser Asp Asp Glu Ala Glu Tyr Leu Cys Ala
                                   90
Ala Trp Asp Asp Ser Leu Asn Gly Pro Val Phe Gly Gly Thr Lys
Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro
                            120
<210> 335
<211> 130
<212> PRT
<213> Unknown
<223> Heavy Chain amino acid sequence
<400> 335
Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
Val Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Trp Ile Ser Ser Ser Gly Gly Tyr Thr Ser Tyr Ala Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                    90
Ala Lys Gly Pro Gly Thr Arg Gly Asp Tyr Trp Gly Gln Gly Thr Leu
                               105
Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
                            120
Ala Pro
   130
<210> 336
<211> 13
```

```
<212> PRT
<213> Unknown
<220>
<223> Light Chain amino acid sequence
<400> 336
Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn Thr Val Asn
<210> 337
<211> 5
<212> PRT
<213> Unknown
<220>
<223> Heavy Chain amino acid sequence
<400> 337
Ser Tyr Val Met Ile
<210> 338
<211> 17
<212> PRT
<213> Unknown
<220>
<223> Heavy Chain amino acid sequence
Trp Ile Ser Ser Ser Gly Gly Tyr Thr Ser Tyr Ala Asp Ser Val Lys
                                     10
1
Gly
<210> 339
<211> 8
<212> PRT
<213> Unknown
<220>
<223> Heavy Chain amino acid sequence
<400> 339
Gly Pro Gly Thr Arg Gly Asp Tyr
<210> 340
<211> 123
<212> PRT
<213> Unknown
<220>
<223> Light Chain amino acid sequence
<400> 340
```

```
Phe Tyr Ser His Ser Ala Gln Ser Val Leu Thr Gln Pro Pro Ser Ala
Ser Ala Thr Pro Gly Gln Arg Val Thr Phe Ser Cys Ser Gly Ser Ser
                                 25
Ser Asn Ile Gly Ser Asn Ala Val Asn Trp Tyr His Gln Leu Pro Gly
Thr Ala Pro Lys Leu Leu Ile Tyr His Asn Asn Gln Arg Pro Ser Gly
Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
                    70
                                        75
Ala Ile Ser Gly Leu Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala
                                    90
Ala Trp Asp Asp Ser Leu His Gly Tyr Val Phe Gly Pro Gly Thr Lys
                                105
Val Thr Val Leu Gly Gln Pro Lys Ala Asn Pro
<210> 341
<211> 131
<212> PRT
<213> Unknown
<220>
<223> Heavy Chain amino acid sequence
<400> 341
Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ile Tyr
Pro Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Ser Gly Ile Ser Pro Ser Gly Gly Tyr Thr Gly Tyr Ala Asp Ser Val
                        55
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
                                        75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                                    90
Ala Arg Gly Gly Ile Ser Trp Phe Met Asp Tyr Trp Gly Gln Gly Thr
                                105
Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
Leu Ala Pro
    130
<210> 342
<211> 13
<212> PRT
<213> Unknown
<220>
<223> Light Chain amino acid sequence
<400> 342
Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn Ala Val Asn
```

```
<210> 343
<211> 7
<212> PRT
<213> Unknown
<220>
<223> Light Chain amino acid sequence
<400> 343
His Asn Asn Gln Arg Pro Ser
                 5
<210> 344
<211> 11
<212> PRT
<213> Unknown
<220>
<223> Light Chain amino acid sequence
<400> 344
Ala Ala Trp Asp Asp Ser Leu His Gly Tyr Val
<210> 345
<211> 5
<212> PRT
<213> Unknown
<220>
<223> Heavy Chain amino acid sequence
<400> 345
Ile Tyr Pro Met Asn
<210> 346
<211> 17
<212> PRT
<213> Unknown
<220>
<223> Heavy Chain amino acid sequence
<400> 346
Gly Ile Ser Pro Ser Gly Gly Tyr Thr Gly Tyr Ala Asp Ser Val Lys
                                     10
Gly
<210> 347
<211> 9
<212> PRT
<213> Unknown
<220>
<223> Heavy Chain amino acid sequence
```

```
<400> 347
Gly Gly Ile Ser Trp Phe Met Asp Tyr
                 5
<210> 348
<211> 369
<212> DNA
<213> Unknown
<220>
<223> Light Chain nucleic acid sequence
<400> 348
ttctattctc acagtgcaca gagcgtcttg actcagccac cctcagcgtc tgcgaccccc
                                                                         60
gggcagaggg tcaccttctc ttgttctgga agcagctcca acatcggaag taatgctgta
                                                                        120
aactggtacc atcagctccc aggaacggcc cccaaactcc tcatctatca taataatcag
                                                                        180
cqaccctcaq qqqtccctqa ccqattctct ggctccaagt ctggcacctc agcctccctg
                                                                        240
gccatcagtg ggctccagtc tgaggatgag gctgattatt actgtgcagc atgggatgac
                                                                       300
agectgeatg gttatgtett eggacetggg accaaggtea eegteetagg teageceaag
                                                                       360
qccaacccc
                                                                        369
<210> 349
<211> 393
<212> DNA
<213> Unknown
<220>
<223> Heavy Chain nucleic acid sequence
<400> 349
gaagttcaat tgttagagtc tggtggcggt cttgttcagc ctggtggttc tttacgtctt
                                                                        60
tettgegetg etteeggatt caetttetet atttaceeta tgaattgggt tegecaaget
                                                                        120
cctggtaaag gtttggagtg ggtttctggt atctctcctt ctggtggcta tactggttat
                                                                       180
gctgactccg ttaaaggtcg cttcactatc tctagagaca actctaagaa tactctctac
                                                                       240
ttgcagatga acagcttaag ggctgaggac actgcagtct actattgtgc gagagggggc
                                                                       300
atcagetggt ttatggacta etggggecag ggaaceetgg teacegtete aagegeetee
                                                                       360
accaagggcc catcggtctt cccgctagca ccc
                                                                       393
<210> 350
<211> 378
<212> DNA
<213> Unknown
<220>
<223> Light Chain nucleic acid sequence
<400> 350
ttctattctc acagtgcaca gagcgtcttg actcagcctc gctcagtgtc cgggtctcct
                                                                        60
ggacagtcag tcaccatctc ctgcactgga accagtagtg atgttggtgc tagttataag
                                                                       120
tttgtctcct ggtaccaact aaagccaggc aaagccccca aactcatgct ttttaatgtc
                                                                       180
cgtgagcggc cctcaggggt ccctgatcgc ttttctgggt ccaagtccgg caacacggcc
                                                                       240
tecetgacea tetetggget ecaggetgag gatgaggetg actattactg etgtteetat
                                                                       300
gcacgcggcc agactttctc ttatgtcttc ggaggtggga ccacggtcac cgtcctaggt
                                                                       360
cagcccaagg ccaacccc
                                                                       378
```

<210> 351

```
<211> 402
<212> DNA
<213> Unknown
<220>
<223> Heavy Chain nucleic acid sequence
<400> 351
gaagttcaat tgttagagtc tggtggcggt cttgttcagc ctggtggttc tttacgtctt
                                                                        60
tettgegetg etteeggatt caetttetet egttaeteta tggggtgggt tegecaaget
                                                                       120
cctggtaaag gtttggagtg ggtttcttct atccgtcctt ctggtggcta tactcgttat
                                                                       180
gctgactccg ttaaaggtcg cttcactatc tctagagaca actctaagaa tactctctac
                                                                       240
ttgcagatga acagcttaag ggctgaggac actgcagtct actattgtgc gaaagatctg
                                                                       300
gagtatagca gtggctggtc atttgactac tggggccagg gaaccctggt caccgtctca
                                                                       360
                                                                       402
agegeeteca ceaagggeee ateggtette eegetageae ee
<210> 352
<211> 126
<212> PRT
<213> Unknown
<220>
<223> Light Chain amino acid sequence
<400> 352
Phe Tyr Ser His Ser Ala Gln Ser Val Leu Thr Gln Pro Arg Ser Val
Ser Gly Ser Pro Gly Gln Ser Val Thr Ile Ser Cys Thr Gly Thr Ser
                                25
Ser Asp Val Gly Ala Ser Tyr Lys Phe Val Ser Trp Tyr Gln Leu Lys
                            40
Pro Gly Lys Ala Pro Lys Leu Met Leu Phe Asn Val Arg Glu Arg Pro
                        55
Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala
                    70
                                        75
Ser Leu Thr Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr
Cys Cys Ser Tyr Ala Arg Gly Gln Thr Phe Ser Tyr Val Phe Gly Gly
            100
Gly Thr Thr Val Thr Val Leu Gly Gln Pro Lys Ala Asn Pro
                            120
<210> 353
<211> 134
<212> PRT
<213> Unknown
<223> Heavy Chain amino acid sequence
<400> 353
Glu Val Gln Leu Leu Glu Ser Gly Gly Leu Val Gln Pro Gly Gly
                                    10
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Arg Tyr
                                25
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
```

```
Ser Ser Ile Arg Pro Ser Gly Gly Tyr Thr Arg Tyr Ala Asp Ser Val
                         55
                                             60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                    70
                                         75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
Ala Lys Asp Leu Glu Tyr Ser Ser Gly Trp Ser Phe Asp Tyr Trp Gly
                                 105
Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
        115
                             120
                                                 125
Val Phe Pro Leu Ala Pro
    130
<210> 354
<211> 12
<212> PRT
<213> Unknown
<220>
<223> Light Chain amino acid sequence
Cys Ser Tyr Ala Arg Gly Gln Thr Phe Ser Tyr Val
                 5
                                     10 .
<210> 355
<211> 5
<212> PRT
<213> Unknown
<220>
<223> Heavy Chain amino acid sequence
<400> 355
Arg Tyr Ser Met Gly
<210> 356
<211> 17
<212> PRT
<213> Unknown
<220>
<223> Heavy Chain amino acid sequence
Ser Ile Arg Pro Ser Gly Gly Tyr Thr Arg Tyr Ala Asp Ser Val Lys
1
                                     10
Gly
<210> 357
<211> 12
<212> PRT
<213> Unknown
<220>
```

```
<223> Heavy Chain amino acid sequence
<400> 357
Asp Leu Glu Tyr Ser Ser Gly Trp Ser Phe Asp Tyr
<210> 358
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 4
<223> Xaa = Gln orArg
<221> VARIANT
<222> 5
<223> Xaa = Asp, Gly, Arg, or Ser
<221> VARIANT
<222> 6
<223> Xaa = Val or Ile
<221> VARIANT
<222> 7
<223> Xaa = Arg, Ser or Asn
<221> VARIANT
<222> 8
<223> Xaa = Asn, Arg, His, Ser or Thr
<221> VARIANT
<222> (9)...(0)
<223> Xaa = Tyr, Asp, Glu, Trp, Asn or Ser
<221> VARIANT
<222> (10)...(0)
<223> Xaa = Leu, Val, or Tyr
<221> VARIANT
<222> (11)...(0)
<223> Xaa = Ala, Gly, Asn or Leu
<400> 358
Arg Ala Ser Xaa Xaa Xaa Xaa Xaa Xaa Xaa
<210> 359
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
```

```
<221> VARIANT
<222> 5, 7, 8
<223> Xaa = any amino acid, e.g., a hydrophilic amino
      acid
<221> VARIANT
<222> 6
<223> Xaa = Val or Ile
<221> VARIANT
<222> 9
<223> Xaa = Tyr, Asp, Glu, Trp, Asn or Ser
<221> VARIANT
<222> 10
<223> Xaa = is hydrophobic, or aliphatic
<400> 359
Arg Ala Ser Gln Xaa Xaa Xaa Xaa Xaa
<210> 360
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 8
<223> Xaa = Gly, Glu, Asp or Ala
<221> VARIANT
<222> 9
<223> Xaa = Ser, Arg or Val
<221> VARIANT
<222> 10
<223> Xaa = Asn or Tyr
<221> VARIANT
<222> 11
<223> Xaa = Thr, Leu, Phe or Asp
<221> VARIANT
<222> 13
<223> Xaa = Tyr or Thr
<400> 360
Ser Gly Ser Ser Ser Asn Ile Xaa Xaa Xaa Xaa Val Xaa
<210> 361
<211> 14
<212> PRT
```

```
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 7
<223> Xaa = Ile or Val
<221> VARIANT
<222> 9
<223> Xaa = Asp, Gly or Tyr
<221> VARIANT
<222> 11
<223> Xaa = Asn, Glu or Asp
Thr Gly Thr Ser Ser Asp Xaa Gly Xaa Tyr Xaa Tyr Val Ser
<210> 362
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 1
<223> Xaa = Ser or Thr
<221> VARIANT
<222> 2, 3
<223> Xaa = Asp or Asn
<400> 362
Xaa Xaa Xaa Gln Arg Pro Ser
<210> 363
<211> 6
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 4
<223> Xaa = Ser or Thr
<221> VARIANT
<222> 5
<223> Xaa = Leu or Arg
```

```
<221> VARIANT
<222> 6
<223> Xaa = Gln or Ala
<400> 363
Gly Ala Ser Xaa Xaa Xaa
<210> 364
<211> 8
<212> PRT
<213> Artificial Sequence
<223> Exemplary motif
<221> VARIANT
<222> 1
<223> Xaa = Gln or Leu
<221> VARIANT
<222> 3
<223> Xaa = any amino acid or is hydrophilic, Ala, or
      Gly,
<221> VARIANT
<222> 4, 5
<223> Xaa = any amino acid or is hydrophilic
<221> VARIANT
<222> 6
<223> Xaa = aromatic, Thr , Arg or Lys
<221> VARIANT
<222> 8
<223> Xaa is hydrophobic
<400> 364
Xaa Gln Xaa Xaa Xaa Pro Xaa
<210> 365
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 4, 5
<223> Xaa = any amino acid
<221> VARIANT
<222> 6
<223> Xaa = hydrophobic (e.g., aromatic)
```

```
<221> VARIANT
<222> 8
<223> Xaa = Pro, Leu or Arg
<400> 365
Gln Gln Tyr Xaa Xaa Xaa Pro Xaa Thr
<210> 366
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 9
<223> Xaa = hydrophobic
<400> 366
Ala Trp Asp Asp Ser Leu Ser Gly Xaa Val
<210> 367
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 9
<223> Xaa = Val or Trp
<400> 367
Ala Trp Asp Asp Ser Leu Ser Gly Xaa Val
<210> 368
<211> 11
<212> PRT
<213> Artificial Sequence
<223> Exemplary motif
<221> VARIANT
<222> 2
<223> Xaa = Ala or Thr
<221> VARIANT
<222> 5
<223> Xaa = Asp, Asn, Glu or Gln
<221> VARIANT
```

```
<222> 6
<223> Xaa = Ser or Thr
<221> VARIANT
<222> 8
<223> Xaa = Ser, Arg or Thr
<221> VARIANT
<222> 10
<223> Xaa = Val or trp
<400> 368
Ala Xaa Trp Asp Xaa Xaa Leu Xaa Gly Xaa Val
<210> 369
<211> 4
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 2
<223> Xaa = any amino acid , Trp, Asp, Lys, Thr, Arg,
      His or Pro
<221> VARIANT
<222> 4
<223> Xaa = Asn, Trp, Asp, Glu, Pro, Thr, Arg, Ser, Val
      or Phe
<400> 369
Tyr Xaa Met Xaa
<210> 370
<211> 5
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 1
<223> Xaa = arimatic
<221> VARIANT
<222> 3
<223> Xaa = any amino acid
<221> VARIANT
<222> 5
<223> Xaa = Asn, Trp, Asp, Glu, Pro, Thr, Ser, Val or
      Phe
```

```
<400> 370
Xaa Tyr Xaa Met Xaa
<210> 371
<211> 4
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 3
<223> Xaa = any amino acid, Trp, His or Thr
<400> 371
Trp Tyr Xaa Met
<210> 372
<211> 4
<212> PRT
<213> Artificial Sequence
<223> Exemplary motif
<221> VARIANT
<222> 3
<223> Xaa = any amino acid
<400> 372
Gln Tyr Xaa Met
<210> 373
<211> 6
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 2
<223> Xaa = any amino acid, hydrophobic or Val, Tyr,
      Trp, Arg, Ser, or Gly
<221> VARIANT
<222> 3
<223> Xaa = Pro or Ser
<400> 373
Ile Xaa Xaa Ser Gly Gly
1
```

```
<210> 374
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 2, 7
<223> Xaa = any amino acid
<221> VARIANT
<222> 3
<223> Xaa = Pro or Ser
<400> 374
Ile Xaa Xaa Ser Gly Gly Xaa Thr
                 5
<210> 375
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 2
<223> Xaa = Ser, Val, Tyr, Trp, Arg or Gly
<221> VARIANT
<222> 3
<223> xaa = Pro or Ser
<221> VARIANT
<222> 7
<223> Xaa = Gly, Lys, Leu, Arg, His, Phe, Tyr, Thr, Gly,
      Gln, Asp, Met, Ile or Asn
<400> 375
Ile Xaa Xaa Ser Gly Gly Xaa Thr
<210> 376
<211> 16
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 2
<223> Xaa = Ser, Val, Tyr, Trp, Arg or Gly
```

```
<221> VARIANT
<222> 3
<223> Xaa = Pro or Ser
<221> VARIANT
<222> 7, 9
<223> Xaa = any amino acid
<400> 376
Ile Xaa Xaa Ser Gly Gly Xaa Thr Xaa Tyr Ala Asp Ser Val Lys Gly
<210> 377
<211> 4
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 1, 2
<223> Xaa = Ser or Gly
<400> 377
Xaa Xaa Trp Tyr
 1
<210> 378
<211> 5
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 3
<223> Xaa = Ser or Gly
<400> 378
Ser Ser Xaa Trp Tyr
<210> 379
<211> 6
<212> PRT
<213> Artificial Sequence
<223> Exemplary motif
<221> VARIANT
<222> 1
<223> Xaa = Arg, His, Trp or Tyr
```

```
<400> 379
Xaa Tyr Tyr Tyr Gly Met
<210> 380
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 1
<223> Xaa = Tyr, Ser or Gly
<221> VARIANT
<223> Xaa = Arg, His, Trp or Tyr
<400> 380
Xaa Xaa Tyr Tyr Tyr Gly Met Asp
<210> 381
<211> · 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 1
<223> Xaa = Ala, Gly, Gln, Ser or Val
<221> VARIANT
<222> 2
<223> Xaa = Ala, Thr or Ser
<221> VARIANT
<222> 3
<223> Xaa = aromatic
<221> VARIANT
<223> Xaa = any amino acid, or Glu, Asp, Arg, Thr or Ser
<221> VARIANT
<222> 5
<223> Xaa = any amino acid, or Asp, Asn, Gln, Lys, Arg
      or Ser
<221> VARIANT
<222> (7)...(0)
<223> Xaa = any amino acid, or Ser, Leu, Thr orAsn
```

```
<221> VARIANT
<222> (6) ... (0)
<223> Xaa = Ser, Thr, Gly or Ala
<221> VARIANT
<222> (8)...(0)
<223> Xaa = Ser, Thr, Arg or Gly
<221> VARIANT
<222> (9)...(0)
<223> Xaa = Gly, Pro, Asn or Phe
<221> VARIANT
<222> (10)...(0)
<223> Xaa = any amino acid
<400> 381
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Val
<210> 382
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 1
<223> Xaa = Ser or Thr
<221> VARIANT
<222> 2, 3, 4
<223> Xaa = hydrophilic
<221> VARIANT
<222> 5
<223> Xaa = Leu, Arg or Asn
<221> VARIANT
<222> 6
<223> Xaa = pro, Arg or Gln
<400> 382
Xaa Xaa Xaa Xaa Xaa Ser
<210> 383
<211> 5
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
```

< <221> VARIANT

```
<222> 3
 <223> Xaa = Ser or Gly
 <221> VARIANT
 <222> 5
 <223> Xaa = Ser or Tyr
 <400> 383
 Ser Ser Xaa Trp Xaa
 <210> 384
 <211> 7
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> Exemplary motif
 <221> VARIANT
 <222> 1.
 <223> Xaa = Ala, Asp, Glu or Gly
 <221> VARIANT
 <222> 2
 <223> Xaa = Ala, Val, Asp, Asn or Glu
 <221> VARIANT
 <222> 3
 <223> Xaa = Ala, Ser, Thr, Asn or Val
 <221> VARIANT
 <222> 4
 <223> Xaa = Ser, Thr, Asn orGln
. <221> VARIANT
 <222> 5
 <223> Xaa = Leu, Arg or Asn
 <221> VARIANT
 <222> (6)...(0)
 <223> Xaa = Ala, Gln, Pro or Arg
 <221> VARIANT
 <222> (7)...(0)
 <223> Xaa = Thr, Phe, Ser, Lys or Pro
 <400> 384
 Xaa Xaa Xaa Xaa Xaa Xaa
  1
                   5
 <210> 385
 <211> 7
 <212> PRT
 <213> Artificial Sequence
 <220>
```

```
<223> Exemplary motif
<221> VARIANT
<222> 1
<223> Xaa = Ala, Asp, Glu, Asn or Gly
<221> VARIANT
<222> 2
<223> Xaa = Ala, Val, Asp, Asn or Glu
<221> VARIANT
<222> 3
<223> Xaa = Ala, Ser, Thr, Arg, Asn or Val
<221> VARIANT
<222> 4
<223> Xaa = Ser, Thr, Asn or Gln
<221> VARIANT
<222> 5
<223> Xaa = Leu, Arg or Asn
<221> VARIANT
<222> (6)...(0)
<223> Xaa = Ala, Gln, Pro or Arg
<221> VARIANT
<222> (70)...(0)
<223> Xaa = Thr, Phe, Ser, Lys or Pro
<400> 385
Xaa Xaa Xaa Xaa Xaa Xaa
<210> 386
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<223> Xaa = Ala, Asp or Glu
<221> VARIANT
<222> 2
<223> Xaa = Ala or Val
<221> VARIANT
<222> 3
<223> Xaa = Ala, Ser or Thr
<221> VARIANT
<222> 4
<223> Xaa = Ser or Thr
```

```
<221> VARIANT
<222> 5
<223> Xaa = Leu or Arg
<221> VARIANT
<222> (6)...(0)
<223> Xaa = Ala or Gln
<221> VARIANT
<222> (7)...(0)
<223> Xaa = Thr, Phe, Ser or Lys
<400> 386
Xaa Xaa Xaa Xaa Xaa Xaa
<210> 387
<211> 14
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 7
<223> Xaa = Ile or Val
<221> VARIANT
<223> Xaa = Ala, Asp, Gly or Tyr
<221> VARIANT
<222> 11
<223> Xaa = Asn, Lys, Glu or Asp
<221> VARIANT
<222> 12
<223> Xaa = Tyr or Phe
<400> 387
Thr Gly Thr Ser Ser Asp Xaa Gly Xaa Tyr Xaa Xaa Val Ser
<210> 388
<211> 7
<212> PRT
<213> Artificial Sequence
<223> Exemplary motif
<221> VARIANT
<222> 1
<223> Xaa = Asn, Ser or Thr
```

```
<221> VARIANT
 <222> 2, 3, 4
 <223> Xaa = hydrophilic
 <221> VARIANT
 <222> 5
 <223> Xaa = Leu, Arg or Asn
 <221> VARIANT
<222> 6
 <223> Xaa = Pro, Arg or Gln
<400> 388
Xaa Xaa Xaa Xaa Xaa Ser
<210> 389
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 8
<223> Xaa = Gly, Glu, Asp or Ala
<221> VARIANT
<222> 9
<223> Xaa = Ser, Arg or Val
<221> VARIANT
<222> 10
<223> Xaa = Ala, Asn or Tyr
<221> VARIANT
<222> 11
<223> Xaa = Thr, leu, Phe or Asp
<221> VARIANT
<222> 13
<223> Xaa = Asn, Tyr or Thr
<400> 389
Ser Gly Ser Ser Ser Asn Ile Xaa Xaa Xaa Xaa Val Xaa
<210> 390
<211> 6
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
```

```
<222> 1
<223> Xaa = his, Ser or Thr
<221> VARIANT
<222> 2, 3
<223> Xaa = Asp or Asn
<221> VARIANT
<222> 4
<223> Xaa = Gln or Tyr
<400> 390
Xaa Xaa Xaa Arg Pro
<210> 391
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 2
<223> Xaa = Ala or Thr
<221> VARIANT
<222> 5
<223> Xaa = Asp, Asn, Glu or Gln
<221> VARIANT
<222> 6
<223> Xaa = Ser or Thr
<221> VARIANT
<223> Xaa = any anini acid, e.g. Ser, Arg, Thr, His or
      Asn
<221> VARIANT
<222> 10
<223> Xaa = any amino acid, e.g., hydrophobic, e.g.,
      Val, Tyr or Trp
Ala Xaa Trp Asp Xaa Xaa Leu Xaa Gly Xaa Val
<210> 392
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
```

```
<221> VARIANT
<222> 1
<223> Xaa = Asn, Gln, Arg or Lys
<221> VARIANT
<222> 2
<223> Xaa = hydrophilic, Ala or Gly
<221> VARIANT
<222> 3
<223> Xaa = Aliphatic
<221> VARIANT
<222> 4, 5
<223> Xaa = hydrophilic
<221> VARIANT
<223> Xaa = any amino acid, or aromatic or hydrophilic
<221> VARIANT
<222> (7)...(0)
<223> Xaa = hydrophobic
<400> 392
Xaa Xaa Xaa Xaa Xaa Xaa Xaa
<210> 393
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Exemplary motif
<221> VARIANT
<222> 1
<223> Xaa = Thr or Ser
<221> VARIANT
<222> 2
<223> Xaa = Asp or Glu
<221> VARIANT
<222> 3
<223> Xaa = Aliphatic
<221> VARIANT
<222> 5
<223> Xaa = hydrophilic or Gly
<221> VARIANT
<222> 7
<223> Xaa = hydrophilic, or Asn, Glu, Asp or Gln
<400> 393
```